



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/628,082

07/25/2003

Kevin V. Fliess

103580.00030/2003P00134

3514

54975

7590

08/03/2009

HOLLAND & KNIGHT LLP  
10 ST. JAMES AVENUE  
BOSTON, MA 02116-3889

EXAMINER

PATS, JUSTIN

ART UNIT

PAPER NUMBER

3623

MAIL DATE

DELIVERY MODE

08/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,082	<b>Applicant(s)</b> FLIESS ET AL.	
	<b>Examiner</b> Justin M. Pats	<b>Art Unit</b> 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 20 and 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/17/09 has been entered, in which Applicant amended claims 1, 5, 8, 11, and 20 and amended the specification to correct a grammatical error. All of these amendments have been entered. Claims 1–17, 20 and 23–30 are pending in this application and have been rejected below.

Art Unit: 3623

***Response to Amendment***

2. The objection to claim 8 of 3/17/09 is hereby removed in light of Applicant's amendment of 6/17/09.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1–2, 4–13, and 15–17, 20, 23, 25–30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Embley et al., *Ontology-Based Extraction and Structuring of Information from Data-Rich Unstructured Documents*, In Proceedings of the Conference on Information and Knowledge Management (CIKM'98), Washington D.C., 1998, pg 1–8 [hereinafter Embley] in view of Neece et al., U.S. Pat. Pub. 2003/0037032 [hereinafter Neece].

5. As per claim 1, Embley teaches a computer-implemented method for defining one or more roles for a project, the method comprising:

extracting, via a search engine, one or more key words from unstructured text associated with the project (Abstract, “For each unstructured document of interest, we extract its constants and keywords”; pg. 3–4, “After invoking the parser, the main program invokes the constant/keyword recognizer and then the structured-text generator for each unstructured document. The recognizer applies each regular expression to the unstructured document.”; pg. 5, “In our second case study we extracted information from computer jobs listed in the Los Angeles Times. . . . Our jobs-listing ontology included 120 regular-expression components. The ontology in Figure 6 declares the structure information about the degree needed, the skills needed, and how to contact someone about the job.”); and

Art Unit: 3623

comparing *potential* key words against predefined job skill definitions in a skills taxonomy and generating a skills list based on the comparison (pg. 5, “Features for car ads and skills for job ads are unbounded. We limited features to actual physical features of cars; we limited skills to computer languages, tools, and systems. Thus, for example, we eliminated “Government Surplus” and “Runs perfect” as features of cars and “works well with others” and “willing to relocate” as job skills.”; pg. 5, “We used the tuning set to determine which object and relationship sets would be in the ontology and what regular expressions would recognize constants and keywords. We refined the ontology until it described information in the tuning set as completely as possible. In generating regular expressions, we did not limit ourselves to patterns found in the tuning set. We used our own experience to generalize some of the patterns, but we did not attempt to be comprehensive—just to be as accurate as possible on the tuning set. We developed and tuned our application ontologies using . . . 50 job ads. We then applied these ontologies to the test sets and obtained the results in . . . Table 2 (computer jobs).”).

Embley further teaches comparing its skills list (denoted by keywords) to one or more predefined role templates wherein the predefined role template includes a larger list of skills which may be required to perform a predefined role (pg. 6, “Unbounded sets, such as car features and job skills, generally dominate overall precision and recall numbers. . . . [F]or jobs, if we had cataloged a larger set of skills, including skills we missed such as “CICS”, “DB2”, and “BAL”, we would have achieved near 100% recall.”) but does not explicitly conduct a comparison of a skills list which is derived from *extracted* keywords from unstructured text with a predefined role template including a list of skills that *are* required to perform a predefined role. Additionally, Embley teaches generating a new role template based on comparison of its skills list and the

Art Unit: 3623

predefined role template, wherein the new role template includes job skill definitions which may be required for the project (*id.* The larger skill set contemplated is considered a new role template) but its new role template does not explicitly define a role required for the project and include job skill definitions required for the project.

However, Embley teaches the extraction of keywords which describe skills and consideration of the extracted skills in determining skills list expansion (*see* Table 2, which shows the number of skills facts extracted from the source by keyword search compared with the actual number of facts contained in the source. Embley then uses this less than optimal recall ratio to hypothesize the creation of a new expanded skills list (this also could be a new role template, as a role template comprises skills required to perform a predefined role, as claimed by Applicant), containing CICS, DB2 and BAL as further skills).

Furthermore, Neece, in the analogous art of online job profiling, teaches comparing a skills list with one or more predefined role templates wherein the predefined role template includes skills required to perform a predefined role (Fig. 8, ¶ 0034, especially “By selecting Copy Existing Position, the user is brought to the Search All Positions page to find a similar existing position, which is then copied, modified and saved as a new Position Profile.”; Fig. 9–10, ¶ 0035—36, discussing skills consideration in comparison and generation of a new job profile or role template); and generating, via a role generator, of a new role template based on the comparison of its skills list and the predefined role template, wherein the new role template defines a role required for the project and includes job skill definitions required for the project (*id.*).

Art Unit: 3623

As such, first, it would have been obvious to apply the *keyword—predefined job skill definitions* comparison technique of Embley to known elements, namely the keywords extracted from unstructured text as taught in Embley to achieve a predictable result in the form of a skills list as claimed by Applicant and result in an improved system. Second, it would have been obvious to apply the *skills list—predefined role template* comparison technique of Neece to a known element, namely the skills list as rendered obvious by Embley as discussed immediately above, so as to achieve a predictable result and result in an improved system. It would have been obvious to modify Embley and apply the teachings of Neece for the benefit of an improved system comprising a more accurate extraction and matching of job skills.

Embley teaches the functionality and structure necessary for (1) storing on a storage medium and adding data to a database, (Fig. 1, filtered and structure document (populated SQL database)). Embley further teaches execution of the method by a role generator system via the use of processors and the use of the internet, aka a communications network (pg. 7, “Front-end page processors are needed to prepare documents. For our case studies we searched the Web, found documents of interest, saved the HTML pages to a file, identified record boundaries within the HTML text, and processed the files to insert record separators and remove HTML markers.”), display in a user interface on a computing device (pg. 7, “Many user-friendly interfaces have already been built over standard database interfaces, so this is certainly feasible.”), and wherein a programmable machine is used (pg. 3, “A main program invokes the parser, recognizer, and generator in the proper sequence.”). Embley does not explicitly teach wherein the storage medium is network accessible, and the user interface is graphical and displayable. However, Neece teaches these concepts (¶¶ 0012, 22, 27, discussing networking



Art Unit: 3623

capabilities of the system; ¶¶ 0001, 13, 20, Figs. 22A–26B, discussing user interface capabilities). It would have been obvious to one having ordinary skill in the art at the time of the invention to include these features for the benefit of providing a user friendly environment that facilitates and expedites the analysis of a company's business processes.

6. Claim 2 recites limitations that stand rejected via the art citations and rationale applied to claim 1 as discussed above.

7. Claim 4 recites limitations that stand rejected via the art citations and rationale applied to claim 1 as discussed above.

8. As per claim 5, Embley does not explicitly teach wherein the predefined role is accessed from an archive of project roles. However, Neece teaches this (¶ 0104). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

9. As per claim 6, Embley does not explicitly teach storing the new role template in the archive of project roles. However, Neece teaches this (¶¶ 0072, 34). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the

Art Unit: 3623

claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

10. Claim 7 recites limitations that stand rejected via the art citations and rationale applied to claim 1 as discussed above.

11. As per claim 8, Embley does not explicitly teach wherein at least one skill in the new role template is optional for the role. However, Neece teaches this (¶ 0036–37, “a list of Professional Skills, numerically ranked and rated as required or preferred”). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

12. As per claim 9, Embley does not explicitly teach matching a specific individual with the new role template. However, Neece teaches this functionality (¶ 0072, 76). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Art Unit: 3623

13. Claims 10, 11–12, 13, and 15–17 recite limitations that stand rejected via the art citations and rationale applied to claims 8, 1–2, 1, and 4–6 as discussed above.

14. Claim 20 predominantly recites limitations that stand rejected via the art citations and rationale applied to claim 1 as discussed above. The only limitation not covered is an archive of at least one project role, which is taught by Neece as discussed above (*see* discussion *supra* ¶ 9).

It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

15. As per claim 23, Embley does not explicitly teach a portal for accessing the one or more role templates. However, Neece teaches this (¶ 0027, 53). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

16. As per claim 25, Embley teaches wherein the role generator operates in a composite application environment (Embley, Fig. 1).

17. Claim 26 recites limitations that stand rejected via the art citations and rationale applied to claim 25 as discussed above.

18. As per claim 27, Embley teaches wherein the role generator operates in a business application (pg. 1, showing the use of the system for business purposes, “As case studies to test these ideas for this paper, we consider newspaper advertisements for automobiles and newspaper job listings for computer-related jobs. Both automobile ads and job listings are data rich and narrow in ontological breadth. Automobile ads typically include constants for and information about year, make, model, asking price, mileage, features, and contact phone numbers. Computer job listings include degree required, needed skills, and contact information. Other application areas whose documents have similar characteristics include travel, stocks, financial transactions, scheduling for meetings, sports information, genealogy, medical research, product information, and many others.”)

19. As per claim 28, Embley does not explicitly teach wherein the business application is a project management application. Neece teaches this (*see e.g.*, Fig. 24A, ¶ 0013). It would have been obvious to one of ordinary skill in the art to modify Embley to include the teaching of Neece because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Art Unit: 3623

20. Claim 29 recites limitations that stand rejected via the art citations and rationale applied to claim 27 as discussed above.

21. As per claim 30, neither Embley nor Neece explicitly teaches wherein the business application is integrated within a composite application environment. However, both the business application and the composite application environment are known elements as discussed above. Integrating known elements is considered the equivalent of making parts or structures integral and is not considered patentably distinguishable from the cited prior art. See *In re Larson*, 144 USPQ 347, 349; 339 US 965 (CCPA 1965); *In re Wolfe*, 116 USPQ 443, 444; 251 F2d 854 (CCPA 1958) (“it would seem scarcely necessary to point out that merely making a two-piece handle in one piece is not patentable invention because it is an obvious thing to do if deemed desirable.”). As such, integrating the business application within the composite application environment would provide a predictable result and result in an improved system that would have been obvious to one having ordinary skill in the art at the time of the invention because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Art Unit: 3623

22. Claims 3, 14, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Embley in view of Neece, as applied to claim 1 above, in view of Haq et al., U.S. Pat. No. 6,275,812 [hereinafter Haq].

23. As per claim 3, Embley teaches wherein the skills list includes a plurality of skills (*see* discussion *supra* ¶ 5), but does not explicitly teach ranking each of the plurality of skills based on a relevance to the project and filtering skills that do not meet a predefined threshold. Neece teaches ranking of each of the plurality of skills as required or preferred (¶¶ 0036–37) but does not explicitly teach ranking based on a relevance to the project and filtering skills that do not meet a predefined threshold. However, Haq, in the analogous art of resource management, teaches these limitations (col. 5, lines 27-49, col. 6, lines 26-42).

It would have been obvious to one of ordinary skill in the art to modify Embley in view of Neece to include the teaching of Haq because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

24. Claim 14 recites limitations that stand rejected via the art citations and rationale applied to claim 3 as discussed above.

25. Claim 24 recites limitations that stand rejected via the art citations and rationale applied to claims 20 and 3 as discussed above.

***Response to Arguments***

26. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection. Specifically, Examiner notes that Applicant's arguments with respect to Embley not teaching the second set of comparing and generating steps (Applicant's Remarks, 5/17/09, pg. 11–14) have been rendered moot by Examiner's addition of Neece and clarification of the obviousness rejection of claim 1, focusing on the application of a known technique to a known device or element rationale (*see* discussion *supra* ¶ 5).

Art Unit: 3623

***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Sundaresan, U.S. Pat. No. 6,681,223 (disclosing a system and method of performing profile matching with a structured document including keyword extraction)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Pats whose telephone number is (571)270-1363. The examiner can normally be reached on M-F, 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6738. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Art Unit: 3623

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin M Pats/  
Examiner, Art Unit 3623

/Andre Boyce/  
Primary Examiner, Art Unit 3623